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U. S. DEPARTMENT OF AGRICULTURE

MARKETING MARGINS AND COSTS FOR

FRUITS and VEGETABLES

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
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MARKETING COSTS AND MARGINS FOR FRUITS AND VEGETABLES 1/

Average per unit marketing charges for fresh vegetables have increased about 39 percent since 1949, but only 4 percent for fresh fruits. Marketing charges for processed fruits and vegetables are up about 3 percent since 1949. The following article discusses trends in marketing charges and prices, and describes what makes up marketing margins for Washington Delicious apples, Florida oranges, and Idaho Russet Burbank potatoes marketed in New York and Chicago.

Trends in marketing margins for fruits and vegetables have been upward in recent years, but the rate of increase has been less than the average increase for all farm products in the market basket. 2/ Between 1946 and 1956, marketing margins for fresh and processed fruits and vegetables in the market basket increased 32 percent. This compared with an average increase of 58 percent for all foods in the market basket. Over two-thirds of the increase for all fruits and vegetables occurred during the postwar inflation period prior to 1949. During the 11 years from 1946 to 1956, the total retail cost of all fruits and vegetables in the market basket increased 20 percent, while the farm value of the equivalent quantity of produce was about the same in 1956 as in 1946. The farmer's share of the consumer's dollar spent on fruits and vegetables during 1956 was 30 percent compared to 37 percent in 1946.

Fresh Fruits and Vegetables

Between 1946 and 1952 marketing margins on fresh fruits and vegetables rose 42 percent. During the same period freight rates increased considerably. Between 1952 and 1955, these margins were relatively stable, but they rose about 5 percent between 1955 and 1956, when transportation rates again increased. The farmer's share of the consumer's dollar spent on fresh fruits and vegetables was 37 percent in 1956 compared with 36 percent in 1955 and 47 percent in 1946.

1/ Prepared by Joseph C. Podany, Agricultural Economist, Market. Res. Div., Agr. Market. Serv.

2/ The "market basket" contains the average quantities of farm-produced food products purchased for consumption at home by urban wage-earner and clerical-worker families in 1952. The marketing margin is the difference between the retail price paid by the consumer and the payment to the farmer for equivalent farm products. It is an estimate of the charges made by marketing agencies for assembling, processing, transporting, and distributing the farm products.

Marketing margins for fresh vegetables have increased more than those for fresh fruits. The cause has been partly the result of increased production of winter and early spring vegetable crops in the more distant production areas and a decline in the importance of market garden production near consuming centers. From 1946 to 1949, the marketing margins for both fresh fruits and vegetables increased about 25 percent. Since 1949, marketing margins for fresh fruits have increased 4 percent while those for fresh vegetables increased 39 percent. Between 1955 and 1956, marketing margins for fresh fruits increased about 3 percent while those on fresh vegetables increased 7 percent.

Processed Fruits and Vegetables

Marketing margins for processed fruits and vegetables have changed moderately in recent years. In 1947, the marketing margins for all processed fruits and vegetables in the market basket totaled $74, 20 percent more than in 1946. After 1947, the total margin declined to $65 in 1950 and by 1955 had risen to $72. There was no change in the size of the margin between 1955 and 1956. The farmer's share varied between 20 and 24 percent during 1946-56, but was 20 or 21 percent during most of this 11-year period.

Marketing Costs

Increased marketing margins have been due mostly to higher costs of performing marketing services. These costs have increased as a result of rises in labor and transportation rates, and prices of materials, equipment, and services which marketing firms buy.

Labor is a major cost component of the marketing bill for fruits and vegetables. Average hourly earnings of employees in the canning and preserving industry rose to $1.57 in 1956 from a level of 80 cents in 1945 and $1.46 in 1955. Hourly earnings of employees in retail stores were $1.69 in 1956 compared with 79 cents in 1945 and $1.62 in 1955. No figures on labor costs are available for firms specializing in the marketing of fresh fruits and vegetables. Increases in average hourly earnings of their employees, however, probably are comparable to those cited above.

Transportation costs make up a substantial portion of the marketing margin for fruits and vegetables. Some important production areas are a great distance from major consumer markets. Many of the products are extremely perishable and must be shipped under refrigeration and receive careful handling both in transit and during distribution.

The Interstate Commerce Commission on March 7, 1956, authorized increased rail freight rates for fresh and canned fruits and vegetables by 6 percent but not to exceed 6 cents per 100 pounds. After this increase, the average level of freight rates for fresh fruits and vegetables was 54 percent above 1945 and 4 percent above 1955. A later authorized increase raised rail freight rates on fresh fruits and vegetables by a maximum of 7 cents per 100 pounds except on shipments in the southern territories, effective December 26, 1956.

Increases of 15 percent in railroad refrigeration charges became effective April 17, 1956, for shipments in other than mechanical refrigerator cars and September 19, 1956, for mechanical refrigerator cars. Railway express rates on fruits and vegetables went up 7 percent for carload shipments on April 16, 1956, and 10 percent for less-than-carload shipments on May 1, 1956. The ICC also authorized many increases during 1956 for truck freight rates under its jurisdiction. It is not known to what extent these changes are applicable to fruits and vegetables, since a large proportion is hauled in trucks owned by farmers or by carriers which are exempt from ICC rate regulation. It is believed, however, that even if truck-line operators raise their own rates in response to rail rate increases, they will not raise them enough to interrupt the upward trend in the proportion of fruit and vegetable shipments moving by truck.

Other costs incurred by marketing firms also have risen during the year. Prices of fuel, power, and lighting materials averaged 3 percent higher in 1956 than in 1955. Prices of both paperboard and metal containers rose 6 percent, and those of glass containers rose 5 percent over the previous year.

Profits after taxes of leading canning and food preserving companies, as a percentage of stockholders' equity, averaged 6.6 percent in 1953, 7.8 percent in 1954, and 10.0 percent in 1955. Their profits as a percent of sales were 2.3 percent in 1953, 2.8 percent in 1954, and 3.4 percent in 1955. Retail food chains reported profits after taxes of 11.0 percent of stockholders' equity in 1953, 10.9 percent in 1954, and 10.7 percent in 1955. Their profits as a percent of sales were 0.9 percent in 1953 and 1.0 percent in 1954 and 1955.

Oranges

Marketing charges for handling oranges must cover the many services required to bring them from the grove to the consumer. The oranges must be picked, hauled from the grove to a packinghouse, degreened, washed, brushed, inspected, sorted, packed, loaded onto a refrigerated railroad car or truck, and shipped to market. At the terminal market, they must be unloaded from the railroad car or truck, sold through the auction market or by private sale, and hauled to a wholesaler's store or a chain store warehouse where they are unloaded. They are later sold to a retailer, loaded on another truck and hauled to his store where they are unloaded and placed on a display rack.

The costs involved in marketing oranges may be illustrated by Florida oranges sold through Chicago and New York City fruit auctions during the 1955-56 season (table 19).

Table 19.- Florida oranges marketed in Chicago and New York: Average price per 1-3/5 bushel wirebound box, marketing costs and margins, and return to grower, 1955-56 season

Item	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Season average
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
				Chicago					
Prices or returns									
Grower on-tree returns ..	0.59	1.04	0.95	1.84	1.48	1.42	1.43	2.00	1.34
Auction prices 1/	3.47	3.95	3.85	4.80	4.42	4.42	4.46	5.06	4.30
Retail prices 1/	6.53	6.35	6.09	6.97	6.53	6.70	6.88	8.03	6.76
Margin (grower-retail)									
Shipping point costs 2/ ..	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38
Rail freight 3/	1.23	1.23	1.23	1.23	1.23	1.29	1.32	1.32	1.26
Terminal market 4/	3.33	2.70	2.53	2.52	2.44	2.61	2.75	3.33	2.78
Total	5.94	5.31	5.14	5.13	5.05	5.28	5.45	6.03	5.42
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price									
Shipping point costs 2/ ..	21	22	23	20	21	21	20	17	20
Rail freight 3/	19	19	20	18	19	19	19	16	19
Terminal marketing margin	51	43	42	36	37	39	40	41	41
Total 5/	91	84	84	74	77	79	79	75	80
				New York					
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Prices or returns									
Grower on-tree returns ..	0.81	1.47	1.26	1.74	1.90	1.84	2.12	3.03	1.77
Auction prices 1/	2.19	2.85	2.64	3.12	3.28	3.22	3.50	4.41	3.15
Retail prices 1/	7.32	7.67	7.94	8.03	8.03	8.03	8.47	9.26	8.09
Margin (grower-retail)									
Shipping point costs 2/ ..	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38	1.38
Rail freight 3/	1.27	1.27	1.27	1.27	1.27	1.32	1.34	1.34	1.29
Terminal market 4/	3.86	3.55	4.03	3.64	3.48	3.49	3.63	3.51	3.65
Total	6.51	6.20	6.68	6.29	6.13	6.19	6.35	6.23	6.32
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price									
Shipping point costs 2/ ..	19	18	17	17	17	17	16	15	17
Rail freight 3/	17	17	16	16	16	16	16	14	16
Terminal marketing margin	53	46	51	45	43	43	43	38	45
Total 5/	89	81	84	78	76	77	75	67	78

1/ Auction prices: Average price of the week immediately preceding the 15th of each month. Agr. Market. Serv.
Retail prices: Average price first 3 days of the week containing the 15th of each month. Bur. of Labor Statistics.
2/ Includes picking, hauling, degreening, and packing cost.
3/ Including refrigeration and 3 percent Federal tax.
4/ Auction-retail margin plus terminal selling charges.
5/ Discrepancies are due to rounding.

The average retail price for Florida oranges sold in Chicago during the 1955-56 marketing season was $6.76 per 1-3/5 bushel wirebound box. There was some indication of an upward trend in retail prices during the season. The total marketing margin averaged $5.42 per box or 80 percent of the retail price. The terminal marketing margin (retail-wholesale margin plus terminal market selling charges) accounted for 41 percent of the retail price, declining during the first half of the season and increasing during the second half. Transportation charges from the producing area to Chicago accounted for 19 percent of the retail price. Picking, hauling, packing, and other shipping-point operations accounted for 20 percent. The grower's on-tree return averaged 20 percent for Florida oranges sold in Chicago during the season; however, during the first 3 months of the marketing season it was lower than in later months.

The average retail price for Florida oranges marketed in New York City was $8.09 per 1-3/5 bushel wirebound box during the 1955-56 season. There was a definite upward trend in retail prices during the marketing season. The total marketing margin averaged $6.32 or 78 percent of the retail price during the season. The terminal marketing margin made up 45 percent of the retail price. There was no definite trend in this margin, although it fluctuated rather widely during the marketing season. Transportation charges to New York City from Florida averaged 16 percent of the retail price, and shipping-point costs 17 percent. The grower's on-tree return averaged 22 percent of the retail price and, like in Chicago, it was lowest during the early months of the marketing season.

The retail price of Florida oranges was $1.33 per box higher in New York City than in Chicago. The grower's on-tree return for oranges sold in New York City was 41 cents per box higher than for those sold in Chicago. Prices and returns were higher for oranges sold in New York City, mainly because a much larger proportion of Indian River oranges was sold there. The latter sell at higher prices than oranges from the interior section of Florida.

Apples

The United States average retail price of all apples was 12.5 cents per pound in 1946. The price then declined until 1950, but since 1951 it has risen to 13.9 cents a pound in 1955 and 14.2 cents in 1956. The marketing margin was 5.8 cents in 1946. Since 1951 it has steadily increased to 7.8 cents a pound in 1955 and 8.1 cents in 1956. The farmer's share of the consumer's dollar was 54 percent in 1946. It declined to 43 percent in 1951 and since then has fluctuated between 43 and 48 percent. It was 44 percent in 1955 and 43 percent in 1956.

Data have been obtained regarding marketing margins and costs for Washington Delicious apples sold at auction in Chicago and New York during the 1955-56 season (table 20). The average retail price of Washington apples sold in Chicago during the 1955-56 season was $8.01 per Northwest box. Retail prices rose as the season progressed until March, then declined. The average total marketing margin for Washington Delicious apples during the season was $4.89, or 61 percent of the retail price. The wholesale-retail margin was 46 percent of the retail price, rail freight

Table 20.- Apples, Washington Delicious, marketed in Chicago and New York: Average price per Northwest box and marketing costs and margins, 1955-56 season

Item	Dec.	Jan.	Feb.	Mar.	Apr.	Average
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
	Chicago					
Prices or returns						
Packinghouse return 1/	3.58	2.97	3.06	3.11	2.91	3.12
Auction price 1/	4.76	4.12	4.21	4.26	4.09	4.29
Retail price 1/	7.83	7.92	8.14	8.32	7.83	8.01
Margin (packinghouse to retail):						
Rail Freight 2/	.87	.87	.87	.87	.90	.88
Terminal selling charges 3/	.31	.28	.28	.28	.28	.29
Wholesale-retail margin 4/	3.07	3.80	3.93	4.06	3.74	3.72
Total	4.25	4.95	5.08	5.21	4.92	4.89
	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price						
Rail freight	11	11	11	10	11	11
Terminal selling charges	4	4	3	3	4	4
Wholesale-retail margin	39	48	48	49	48	46
Total 5/	54	63	62	63	63	61
	New York					
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Prices or returns						
Packinghouse return	3.55	3.09	3.09	3.15	3.27	3.23
Auction price 1/	4.92	4.44	4.43	4.50	4.66	4.59
Retail price 1/	8.23	8.18	8.18	7.88	8.54	8.20
Margin (packinghouse to retail):						
Rail freight 2/	1.05	1.05	1.05	1.05	1.08	1.06
Terminal selling charges 3/	.32	.30	.29	.30	.31	.30
Wholesale-retail margin 4/	3.31	3.74	3.75	3.38	3.88	3.61
Total	4.68	5.09	5.09	4.73	5.27	4.97
	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price						
Rail freight	13	13	13	13	13	13
Terminal selling charges	4	4	4	4	4	4
Wholesale-retail margin	40	46	46	43	45	44
Total 5/	57	62	62	60	62	61

1/ Packinghouse return: Auction price less rail freight and terminal selling charges. Auction prices: Average prices of the week immediately preceding the 15th of each month, Agr. Market. Serv. Retail prices: Average prices first 3 days of the week containing the 15th of each month, Bur. of Labor Statistics.

2/ Including 3 percent tax. Wenatchee, Wash., to Chicago and New York at 50 lb. billing weight per box. For standard refrigeration or modified protective service, if desired, the additional charges (including 3 percent tax) would be:

	Cents per Northwest box	
	To Chicago	To New York
Standard refrigeration	14	17
Carrier's protective service against cold (Rule 515)	5	6

3/ Terminal selling charges as follows: Auction selling charge, 1-3/4 percent of selling price; auction handling charge, 4 cents per box; selling broker's commission, 4 percent of selling price.

4/ Retail price less auction price.

5/ Discrepancies due to rounding.

charges 11 percent, and selling charges 4 percent. These growers and shippers together received an average of $3.12 per box, or 39 percent of the retail price, during the season. Often the grower does his own packing and shipping. For that reason returns received at the packing house level could not always be divided between shipper and grower.

In New York City, the retail price of Washington Delicious apples averaged $8.20 per Northwest box during the 1955-56 season. The average total marketing margin was $4.97, or 61 percent of the retail price. The wholesale-retail margin averaged $3.61 per box, or 44 percent of the retail price, 2 percentage points below the wholesale-retail margin in Chicago. Rail freight charges averaged 13 percent of the retail price and selling charges 4 percent. The grower and shipper together received an average of 39 percent of the retail price, the same percentage as for apples marketed in Chicago. Since the level of prices was higher in New York City than in Chicago, the grower and shipper received an average of 11 cents per box more for marketings there than in Chicago.

Potatoes

The spread between the United States average retail price of white potatoes (all varieties combined) and the farm value was 12 percent greater in 1956 than in 1955, and 78 percent greater than in 1946. The farmer's share of the retail price was 39 percent in 1956, compared with 34 percent in 1955. It varied from 34 to 52 percent between 1946 and 1955.

The average retail price for Idaho Russet Burbank potatoes in Chicago was $7.33 per 100 pounds during the 1955-56 season (table 21). The season average grower-retail marketing margin on these potatoes was $5.38 or 73 percent of the retail price. The retail margin, the largest segment of the total marketing margin, made up 38 percent of the retail price, and the wholesale margin accounted for 7 percent. Rail freight charges took 18 percent and the shipping-point margin 11 percent of the retail price. The grower price averaged 27 percent of the retail price.

In New York City, the retail price for Idaho Russet Burbanks averaged $8.45 during the 1955-56 season. The grower-retail marketing margin averaged $6.50, or 77 percent of the retail price. The retail margin averaged 41 percent, 3 percentage points more than for Idaho potatoes sold in Chicago. The wholesale margin averaged 7 percent, rail freight charges 20 percent, and the shipping-point margin 9 percent of the New York City retail price. The price to the grower was 23 percent of the retail price.

Table 21.- Potatoes, Idaho Russet Burbanks marketed in Chicago and New York: Average prices per 100 pounds and marketing costs and margins, 1955-56 season

Item	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	average
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Chicago							
Prices							
Grower	1.28	1.36	1.96	2.18	2.15	2.77	1.95
Shipping point 1/	2.05	2.26	2.82	2.88	2.88	3.48	2.73
Wholesale 1/	3.95	4.00	4.46	4.90	4.60	5.35	4.54
Retail 1/	6.80	7.00	6.80	7.60	7.60	8.20	7.33
Margin (grower-retail)							
Shipping point margin 2/	.77	.90	.86	.70	.73	.71	.78
Rail freight 3/	1.30	1.30	1.30	1.30	1.30	1.36	1.31
Wholesale margin 4/	.60	.44	.34	.72	.42	.51	.50
Retail margin 5/	2.85	3.00	2.34	2.70	3.00	2.85	2.79
Total	5.52	5.64	4.84	5.42	5.45	5.43	5.38
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price							
Shipping point margin	11	13	13	9	10	9	11
Rail freight	19	19	19	17	17	17	18
Wholesale margin	9	6	5	9	6	6	7
Retail margin	42	43	34	36	39	35	38
Total 6/	81	81	71	71	72	66	73
New York							
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Prices							
Grower	1.28	1.36	1.96	2.18	2.15	2.77	1.95
Shipping point 1/	2.05	2.26	2.82	2.83	2.88	3.48	2.73
Wholesale 1/	4.40	4.36	5.02	5.18	5.20	5.72	4.98
Retail 1/	8.00	8.00	8.50	8.80	8.20	9.20	8.45
Margin (grower-retail)							
Shipping point margin 2/	.77	.90	.86	.70	.73	.71	.78
Rail freight 3/	1.66	1.66	1.66	1.66	1.66	1.72	1.67
Wholesale margin 4/	.69	.44	.54	.64	.66	.52	.58
Retail margin 5/	3.60	3.64	3.48	3.62	3.00	3.48	3.47
Total	6.72	6.64	6.54	6.62	6.05	6.43	6.50
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Percentage of retail price							
Shipping point margin	10	11	10	8	9	8	9
Rail freight	21	21	20	19	20	19	20
Wholesale margin	9	6	6	7	8	6	7
Retail margin	45	46	41	41	37	38	41
Total 6/	84	83	77	75	74	70	77

1/ Shipping point and grower prices: Average price during the two weeks preceding the Tuesday wholesale price. Agr. Market. Serv.

City wholesale price: Average price less-than carload lots for Tuesday of the week preceding the week including the 15th of each month. Agr. Market. Serv.

Retail price: Average price first 3 days of the week containing the 15th of each month. Bur. of Labor Statistics.

2/ Shipping point price less grower price.

3/ Rail freight from Twin Falls, Idaho, including 3 percent Federal transportation tax.

4/ Wholesale price less transportation and shipping point price.

5/ Retail price less wholesale price.

6/ Discrepancies are due to rounding.